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THE RELATIONSHIP OF COMPREHENSION TO SPEECH PRODUCTION IN SECOND LANGUAGE INSTRUCTION--PROPORTION AND SEQUENCE.

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ALTHOUGH ADMINISTRATIVE DIFFICULTIES COMPELLED A 2-PHASED PROJECT, BEGUN AT INDIANA UNIVERSITY IN THE 1966-67 ACADEMIC YEAR, TO BE TERMINATED BEFORE ANY CONCLUSIVE DATA HAD BEEN GATHERED, SOME OF THE OBSERVATIONS MADE DURING THE INITIAL STAGE OF THE EXPERIMENT MIGHT PROVOKE NEEDED FURTHER INVESTIGATION. THE PILOT RUN, DESIGNED TO DEVELOP MATERIALS FOR THE ESSENTIALLY AUDIOLINGUAL, BUT READING-ORIENTED, EXPERIMENTAL PROGRAM, INVOLVED THREE RANDOMLY SELECTED REGULAR BEGINNING FRENCH COURSES. THE MORE EFFICIENT RESULTS PRODUCED BY THE TECHNIQUES USED WITH TWO OF THESE GROUPS SUPPORTED THE EXPERIMENT'S HYPOTHESIS THAT THE SEQUENTIAL INTRODUCTION OF SPEECH AND COMPREHENSION WOULD PRODUCE OVER-ALL GREATER PROFICIENCY THAN WOULD THE SIMULTANEOUS PRESENTATION OF THESE TWO SKILLS. HOWEVER, AT THE END OF THE INITIAL STAGE, THERE APPEARED TO BE NO SIGNIFICANT DIFFERENCE IN THE TERMINAL SPEAKING ABILITIES OF THE THREE GROUPS AND THERE WAS THE INDICATION THAT THE DRILLING TECHNIQUES REQUIRED IN THIS TYPE OF PROGRAMING MIGHT BE MORE EFFECTIVE IN INTENSIVE LANGUAGE PROGRAMS. SPECIALLY DEVELOPED DRILLS FEATURING SUCH NON-VERBAL RESPONSES AS HAND SIGNALS AND WRITTEN EXERCISES PROVED EFFICIENT METHODS OF TEACHING GRAMMAR AND COMPREHENSION TO THE EXPERIMENTAL GROUPS. A SIMPLE LINEAR PROGRAMED WRITTEN-RESPONSE SEQUENCE CALLED THE "FLIP-OVER EXERCISE" SUPPLEMENTED MOST EFFECTIVELY THE ORAL CUES PRESENTED BY THE TEACHERS. (AB)

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The research reported herin was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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This project has been divided into two phases: a pilot run with the primary purpose of developing materials, and a final run. For reasons that will here be stated briefly, the present project is being terminated at the close of the initial phase. We hope that as a pilot study it will inspire the additional research which we believe would be fruitful.

The division of the experiment into two phases was made necessary when the project had to be transferred from an intensive Russian program where materials development was well under way, to the regular first semester French (F101) program at Indiana University. With this change it was of course necessary to exercise care that the essential content of the F101 course not be altered and that no disruptive changes be introduced into the normal function of its administration. This program utilizes a modified audio-lingual approach with considerable emphasis on reading.

The co-operation of three graduate assistants assigned to teach F101 was solicited, and for most of the semester two of their classes were observed daily. One of these instructors was reluctant to join the project and found it difficult to adjust to the new teaching methodology. This is understandable since pressure to maintain a high academic standing sometimes causes graduate students to resent demands which may be made on their time. Difficulty was encountered in maintaining

rigid controls on treatment methodology and in compensating for differences in teacher effectiveness. A teacher rotation plan was tried and found to be unworkable: the chief objections came from the instructors themselves.

The purpose of this report will not be to describe a fully developed set of materials or present evidence that could be considered conclusive. It is rather to report briefly some of the observations that have been made during this initial stage with little repetition of the contents of the project proposal. Subjective evaluations will be included along with objective observations.

A total of ten sections of F101 were taught in the second semester of the 1966-67 academic year at Indiana University. Three of these were selected at random, each to compose one of three groups for the project. The lables A, B, and C were used to designate these three groups and their treatments. Treatments A and B called for approximately five times more practice in comprehension than speaking. In treatment A, speech and comprehension were to be introduced at approximately the same time, whereas treatment B called for a lag between speech and comprehension of such a nature that speech was to be practiced only on material for which comprehension had been systematically practiced and reviewed. Treatment C specified approximately the same amount of practice for comprehension and speech with no lag between them. The project called for special materials which would provide for as systematic and complete a review cycle as possible, designed in such a way as

to correspond to the speech lag of treatment B.

It was hypothesized that treatments A and B would have greater over-all efficiency than treatment C and that treatment B would prove to be superior to treatment A.

As expected, the emphasis on comprehension with the corresponding reduction of speech enabled groups A and B to progress considerably faster than the other groups. We found, however, that the efficiency which is possible in a comprehension-centered approach does not come automatically. Years of research and experience have helped to optimize speech-centered instruction while relatively little effort has been directed toward the development of comprehension-centered methodology. The teaching of listening comprehension has received some attention recently, and such activities as dialogue memorization, student reports, and conversations are among the methods which have been suggested. However the teaching of comprehension with minimal reliance upon speech is what we wish to consider here. A five-to-one comprehension-to-speech ratio requires methods for teaching grammatical "understanding" as well as lexical comprehension. In this project good results were obtained from a type of auditory pattern practice and from pattern practice utilizing a high comprehension-to-speech ratio.

It was found that drills utilizing nonverbal responses can operate with a great deal of efficiency. They can employ a variety of nonverbal responses ranging from various types of hand signals to short written responses. These responses can indicate

ordinary comprehension, grammatical comprehension, or the selection of correct grammatical features. They can be as simple as holding up the correct number of fingers. Such drills offer the advantage that simultaneous responses can be elicited from all the students. This is difficult in speech-centered instruction. It is true that students are asked to produce a choral response in many audio-lingual programs. But this seems to be of minimal value in the presentation of pattern drills because the response time for a given drill varies from student to student, and the faster student tends to give away the answer. It is also very difficult to evaluate individual oral responses which are given simultaneously. Neither of these problems exist for non-verbal responses.[1] In a class of 20 students where one response per minute is achieved with verbal responses, 1 × 20 responses per minute can be achieved with nonverbal responses, a 2000% increase in efficiency. This is easily doubled or tripled due to the rapidity with which nonverbal responses can be elicited.

Nonverbal responses were helpful in drilling the oral comprehension of reading materials. Instructors read the text and stopped at appropriate places to insert true-false exercises. Students used hand signals to indicate their response. This kept response time short, a factor which seems to be of central importance in the make-up of efficient comprehension drills.

One of the methods involving written responses which we have found to be effective incorporates a simple linear programmed sequence which we have nicknamed the "flip-over exercise" because students turn the page over to find the correct answer and register

their next response. This response may involve either writing something or circling a correct answer. The written response works well where the feature being taught is graphemically small such as an object pronoun in French. For larger units, multiple choice responses may be more efficient. Sometimes a multiple choice response can be used on one side of the sheet and a written response on the other. It is not correct to think of these worksheets as being little programs in themselves. Until they are matched with the oral cues presented by the teacher, they are incomplete. For example, with the worksheet inserted after this page, the teacher would give the following cues for exercise II:

1. J'ai acheté le journal.
2. Je l'ai donné à John.
3. J'ai acheté les journaux.

etc.

The student sees the response written out with the pronoun missing and wide spaces between each word. He must write the correct pronoun in its proper place. He then turns the paper over to side 2 to check his response. The teacher may give the correct response orally as an added confirmation. The student is now ready to make the next response which he registers on side 2 and flips the page for confirmation. The teacher can judge how fast the drill should go by observing the rate that pages are turned over. This type of exercise often goes faster than its oral counterpart and has the advantage that every student responds to every cue. It can be combined with the corresponding oral drill. Such a combination of written and oral responses should increase efficiency if Mace and Keislar are correct in suggesting that "the speed of

WORKSHEET I

I. A. le, la, les

1. Je viendrai chercher
2. Je viendrai la chercher.
3. Je viendrai chercher
4. Je viendrai les chercher.
5. Je viendrai chercher

B.

1. J irai chercher
2. J'irai la chercher.
3. J irai chercher
4. J'irai la chercher.
5. J irai chercher
6. J'irai le chercher.

II.

1. J ai acheté
2. Je le lui ai donné.
3. J ai achetés
4. J'en ai acheté.
5. J ai acheté deux
6. J'en ai acheté un.
7. m a donné.
8. Il vous l'a donné.
9. m a donnée.
10. Elle vous l'a donnée.
11. Elle vous a données
12. Elle vous en a donné.

side 2

I. A.

1. Je viendrai le chercher.
2. Je viendrai chercher
3. Je viendrai les chercher.
4. Je viendrai chercher
5. Je viendrai les chercher.

B.

1. J'irai les chercher.
2. J irai chercher
3. J'irai le chercher.
4. J irai chercher
5. J'irai les chercher.
6. J irai chercher

II.

1. Je l'ai acheté.
2. Je l ai donné
3. Je les ai achetés.
4. J ai acheté
5. J'en ai acheté deux.
6. J ai acheté
7. Il me l'a donné.
8. vous a donné
9. Elle me l'a donnée.
10. Elle vous a donnée
11. Elle vous les a données.
12. Elle vous a donné

mastery of a listening comprehension task" may be a function of "the number of related associative tasks" incorporated in the learning process and if the extension of this principle from vocabulary to grammatical features is warranted.

In a pilot run intended primarily for the development of methodology, it is difficult to include all the features necessary to the final experiment. Because of the technical problems and expense of recording and judging the responses of more than 200 students and because of difficulties of scheduling, it was decided to omit pretests and posttests in the speaking skill. Although subjective evaluation obtained from the observation of classes may provide some evidence that no significant difference existed between the terminal speaking skills of the students in the three groups, no objective support is available for such a conclusion. However, with materials and methodology functioning optimally, it is our opinion that treatments A and B are capable of producing a speaking skill on a level with or superior to that which can be produced by treatment C. Such a statement of opinion has merit only in indicating the value of further experimentation.

At first it was felt that the same materials should be used for all three treatments in order to avoid the introduction of an unnecessary variable. It was found, however, that materials which are optimum for one skill are not necessarily optimum for the other. Optimum drills for the two active skills will not necessarily bear a complementary relationship, the one approximating a mirror image of the other.

It was therefore decided that compatability of materials to treatment was more important than similarity of materials between treatments. Thus the materials and methodology already being used in the other seven F101 sections were taken to be optimum for treatment C, and this treatment was changed to conform to them. This resulted in eight sections which can together be considered as a control group utilizing treatment C.

It was decided that discontinuing the distinction between treatments A and B (speech lag versus no speech lag) might be more beneficial than detrimental for two reasons. First, the instructor who was to administer treatment B for the major part of the semester was already having difficulty adjusting to treatment A. Discontinuing the difference between treatments A and B would avoid a further adjustment when this instructor was to be rotated from group A to group B. Secondly, by this time it was apparent that a one-semester nonintensive program could not easily incorporate a full review of more than four or five lessons. Since the speech lag was to be limited by the amount of material that could be effectively carried in review, only a short speech lag was possible. It seemed obvious that any increase in efficiency due to such a short speech lag would be measurable, if at all, only after it had been carried for a very long period of time. It appears that intensive programs can handle considerably more review than nonintensive programs.

Treatments A and B were kept on the same schedule and seemingly had no difficulty in completing the semester's work three

weeks early. We decided to use these three weeks to cover, with the exception of the reading material, essentially the whole semester's work again, this time emphasizing speech as much as possible. This can be viewed as a secondary speech lag equal to the length of the course. The instructors were surprised at the facility with which students were able to produce speech during this part of the project, and the large amount of material they were able to cover in these three weeks was of particular interest.

Because our controls were inadequate and because an evaluation of the speaking skill is not included in the data, we feel that a detailed statistical analysis is not warranted at this time. It may, however, be of interest to include in this report the average scores of each group so that they can be inspected in the light of the observations which have been made. The following table shows the pretest and posttest means in the order of their rank on the posttest.[2]

		Pretest	Posttest
Group A	---	74.64	78.98
		82.28	77.58
		73.06	76.98
		77.89	74.19
Group C	---	77.38	71.53
		70.66	68.81
Group B	---	72.90	68.52
		65.74	61.06
		70.95	60.68
		60.99	57.86

(All groups not labled were exposed to treatment C.)

While it can be stated that the comparatively low mean of group B was not entirely unexpected due to the administrative difficulties encountered, and it is possible that an analysis

of covariance might indicate a significant difference between the effectiveness of treatments A and C, such evidence in itself can only be said to support the view that further experimentation may prove to be fruitful.

Footnotes

1. Apparently most students do not wish to receive help on drills. We found that they were not inclined to look at the responses of their classmates.

2. The pretest measured proficiency in listening comprehension, reading, and writing on the material covered during the first three weeks of the course. A neutral or composit treatment was used for groups A, B, and C during this initial period. The posttest measured proficiency in the same skills on the material covered during the entire first semester.

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Abbreviations

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